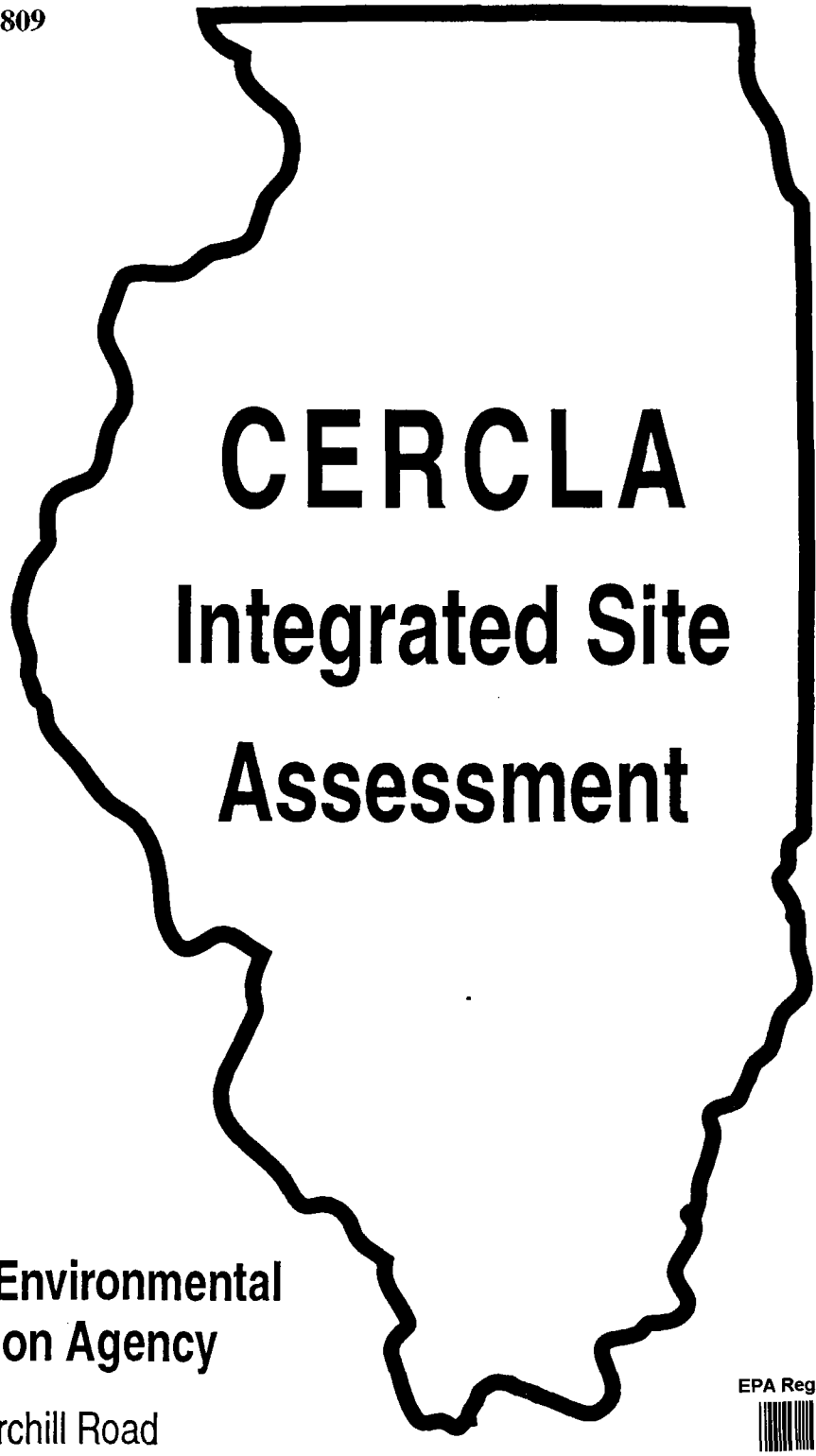
LPC# 1190405257 Madison County
Granite City Ditch
ILSFN# 0507809
SF/HRS
vol. 1 of 2



CERCLA
Integrated Site Assessment

Illinois Environmental Protection Agency

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P. O. Box 19276
Springfield, IL 62794-9276

Confidential material may be enclosed.

CERCLA
INTEGRATED ASSESSMENT REPORT

for:

GRANITE CITY DITCH
GRANITE CITY, ILLINOIS
ILSFN 0507809

PREPARED BY:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
DIVISION OF REMEDIATION MANAGEMENT
FEDERAL SITES REMEDIATION SECTION
SITE ASSESSMENT UNIT

SEPTEMBER 1999

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1.0 SITE BACKGROUND

In April 1999, the Illinois Environmental Protection Agency's (Illinois EPA) Site Assessment Program, was tasked by United States Environmental Protection Agency (U.S. EPA) Region V to conduct an Integrated Assessment at the Granite City Ditch site in Granite City, Illinois. The Integrated Assessment is performed under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) commonly known as Superfund.

In 1998, Illinois EPA conducted a PRE-CERCLIS Action Inspection and identified this site as a potential source of sediment contamination which may adversely impact Horseshoe Lake. These investigations indicated that a storm water ditch, located on the south-east portion of Granite City, contained elevated levels of Polycyclic Aromatic Hydrocarbon's (PAH's) and inorganic contamination. Following the PRE-CERCLIS Action Report, the site was placed on the Comprehensive Environmental Responsive Compensation and Liability System (CERCLIS) in March 1999.

The Granite City Ditch site was evaluated in the form of a CERCLA Integrated Assessment prepared by Illinois EPA's Site Assessment Program. The Integrated Assessment included the preparation of a site specific work plan which was submitted to U.S. EPA Region V on March 22, 1999. The field activity portion of the Integrated Assessment was conducted on April 12 and 13, 1999. Other Integrated Assessment activities included interviews with personnel associated with the site and the collection of samples from the area.

The purpose of the Integrated Assessment has been developed from USEPA directive and guidance information which outlines Site Assessment program strategies. The guidance states:

The Integrated Assessment will be conducted to: 1) Collect data which would satisfy both site assessment and remedial program activities. This would incorporate hazardous waste, surface water, air, and groundwater concerns. 2) The objectives of the assessment are to determine whether time or non time critical removals are warranted and to determine whether the site is National Priorities List (NPL) caliber. If the determination is made that the site is NPL caliber, additional data will likely be needed to complete the assessment. A sampling plan to accommodate removal and site assessment needs, as well as initial remedial needs should be developed. 3) Determination of site sampling needs will be accomplished with an understanding to assure adequate data for the removal assessment and the preparation of the Hazard Ranking System (HRS) score as well as the need for possible initial sampling for the remedial investigation. Based on the preliminary HRS score and removal program information, the site will then either be designated as No Further Action (NFA), or carried forward as an NPL listing candidate. Sites that are designated NFA or deferred to other statutes may not be candidates for an Integrated Assessment. 4) Upon completion of the data gathering, there will be a determination of whether the site should be forwarded within the Superfund process, either through the remedial or removal programs.

The initial assessment of the site as it enters the Superfund program within Region V will be conducted by either a Regional On-Scene Coordinator (OSC) and a Site Assessment Manager (SAM) or by State personnel. An OSC and a SAM will be assigned for all new sites entering the Regional Superfund program. If an emergency is found to occur, USEPA or State emergency removal staff will be immediately contacted for action. If the site needs further Superfund activities, a Site Assessment Team (SAT), comprised of the State, the SAM, the Regional Project Manager (RPM), and an OSC will be formed. As necessary, additional data can be generated for the SAT to make a recommendation to the Regional Decision Team (RDT) for further possible action.

The Integrated Assessment will address all the data requirements of the revised HRS using field screening and NPL level Data Quality Objectives (DQO's) prior to data collection. It will also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for NPL listing and that have not been deferred to another authority will receive an Integrated Assessment.

Illinois EPA performed the investigation to obtain information which may determine whether, or to what extent, the site poses a threat to human health and/or the environment. The report represents the results of Illinois EPA's evaluation and briefly summarizes the site conditions and targets of concern to the migration and exposure pathways associated with the site.

1.1 Site Description

The Granite City Ditch is an extensive surface water drainage collection system encompassing a large portion of Granite City within Madison County (Figure 1). The complete system is comprised of two separate surface water drainage ways which eventually merge together before emptying into Horseshoe Lake (Figure 2). Many individual storm water collection systems are tied together and empty into the drainage system. According to information from the Granite City Street Department, the ditch collects storm water from most of the south, south-east, and eastern portions of Granite City. As illustrated in Figure 2, the complete drainage system is over 6.5 miles in length and is comprised of the Nameoki Ditch and Granite City Storm Water Ditch.

Nameoki Ditch emerges just south of Pontoon Road in the northeast portion of Granite City. From this location surface water flows in a southerly direction for approximately 3 miles and travels beneath Route 162. Immediately south of Route 162, Nameoki Ditch joins with another storm water ditch which is described in the next paragraph. At the confluence of the two ditches, water within the ditch flows an additional 1.2 miles before emptying into Horseshoe Lake. Information collected during PRE-CERCLIS activities indicate this portion of the drainage system did not contain significantly elevated levels of contaminants.

The Granite City Storm Water Ditch emerges south of the junction of 23rd Street and Hall Avenue. From this location, water within the ditch flows to the east, parallel to 23rd Street. The ditch meanders south along Nameoki Avenue then passes beneath Route 162 before joining with Nameoki Ditch. The total distance from the origin of this storm water ditch to the junction with Nameoki Ditch is approximately 2.5 miles. From this location, the Granite City Storm

Water Ditch and Nameoki Ditch is a single, common drainage pathway.

This Integrated Assessment Report has focused upon the drainage pathway described as the Granite City Storm Water Ditch. For the remainder of this report the ditch will be referred to as the Granite City Ditch. The Granite City Ditch empties into Horseshoe Lake just east of the Granite City Steel Wastewater Treatment Lagoons (Figure 3). Horseshoe Lake is a 2107 acre lake listed as an Illinois State Park, a designated fishery, and used for recreational purposes. The Target Distance Limit for the surface water pathway is achieved within the waters of Horseshoe Lake.

Most of the Granite City Ditch is surrounded by a six foot high chain-linked fence. Residential properties are located to the north beyond 23rd Street and to the east beyond Nameoki Avenue. Lake Elementary School is located approximately 1000 feet north-east of the Granite City Ditch. The entire Granite City Ditch travels parallel to Granite City Steel property. Portions of the Granite City Ditch are accessible through the Granite City Steel property due to the lack of a fence. The Granite City Steel property, however, is private and can only be entered by employees or through escort of a Granite City Steel representative.

Information obtained during previous site inspections indicate that a portion of the Granite City Ditch contains a concrete liner. The portion of the ditch which parallels 23rd Street and Nameoki Avenue were found to contain a concrete liner beneath the sediment. Sediments ranging from 1-3 feet have accumulated over portions of the concrete liner thus allowing for the establishment of vegetation. A concrete liner was not encountered along the base of the Granite City Ditch at any location south of Route 162.

1.2 Site History

It is unclear when the Granite City Ditch system was completely implemented but file information indicates it has been in use since at least the 1960's. The visible portions of the ditch serve as drainage points for storm water pipes from a large portion of Granite City. These areas of town are comprised of residential and heavy industrial areas. The storm water within the ditch does not receive treatment prior to entering Horseshoe Lake.

Information from the Illinois State Water Survey indicates that prior to the 1960's, the Granite City Ditch received waste water from the Granite City Steel facility. Granite City Steel has operated at the Granite City location since 1878 and it is unknown how long waste water may have been discharged through the ditch. In the mid 1960's Granite City Steel constructed their own waste water treatment facility which bypassed the Granite City Ditch. Storm water from the Granite City Steel facility is also collected and treated within their own treatment facility. This water is treated then reused in the steel making process or discharged into Horseshoe Lake through a permitted discharge point.

Representatives from the Granite City Street Department were unsure when dredging was last conducted along the storm water drainage route. Due to the build-up of sediments along the ditch, dredging in the future may be performed by the Granite City Street Department.

1.3 Regulatory Status

Based upon available file information the Granite City Ditch site does not appear to be subject to RCRA corrective action authorities. Information currently available does not indicate that the site is under the authority of the Atomic Energy Act (AEA), Uranium Mine Tailings

Action (UMTRCA), or the Federal Insecticide Fungicide or Rodenticide Act (FIFRA).

2.0 INTEGRATED ASSESSMENT ACTIVITIES

2.1 Reconnaissance Activities

Prior to conducting Integrated Assessment field activities, the Granite City Street Department was visited. During the visit, Illinois EPA's Site Assessment Unit personnel identified potential areas of concern along the ditch. These areas of concern were identified from 1998 PRE-CERCLIS Screening data. The street department provided the Illinois EPA with a copy of storm water drainage routes near the area of concern. The Granite City Street Department also granted Illinois EPA permission to access to the ditch in order to collect data needed to conduct the Integrated Assessment.

Portions of the Granite City Ditch flow adjacent to Granite City Steel property. In order to access these areas, representatives from Granite City Steel were contacted in order to enter their property. A Granite City Steel representative was present throughout the field activities which utilized their property for access.

2.2 Sampling Activities

2.2.1 Sediment Samples

Nine sediment samples from eight locations were collected from Granite City Ditch during the Integrated Assessment investigation. All sample locations were selected to determine if hazardous contaminants were present within the sediments of the ditch which may pose a threat to Horseshoe Lake. The samples were collected from the upper twelve inches of

sediments and analyzed for Target Compound List (TCL) analytes. A complete list of TCL compounds can be found in Appendix B. Figure 3 illustrates the approximate location of each sample. Table 1 provides detailed information regarding each sediment sample. Table 3 provides sediment sample analytical data which has been detected at levels at least three times background concentrations. Table 4 provides a complete summary of sediments samples of all detected compounds.

All sediment samples for the Integrated Assessment were compared to background sample X201. This representative background sample was collected from Nameoki Ditch in a location immediately north of St. Clair Avenue within Granite City. Sample X201 was collected from a similar drainage ditch and away from possible influence of contamination which may have impacted the Granite City Ditch.

Sample X202 was collected from the Granite City Ditch south of the junction of August Avenue and 23rd Street. This location represents the furthest upstream location of the above ground portion of the Granite City Ditch. Within the area of the sample, there were several culvert pipes which appear to deposit storm water drainage from locations throughout Granite City into the ditch. This sample was collected to gather data from the origin of the Granite City Ditch.

Sample X203 was collected from the ditch in a location parallel to Nameoki Avenue. Previous information from the Granite City Ditch indicates sediments at this location contained elevated levels of contaminants. This sample was gathered to determine the linear extent of sediment contamination along this route.

Samples X204 and X205/X206 were collected from the Granite City Ditch south of

Route 162. These sample locations were collected from the ditch which flowed parallel to Route 162. These sample locations were also chosen to determine the linear distance of migration within the ditch. Sample X206 was a duplicate sample of X205. Sediment that was obtained for X205 was placed in a stainless steel pan, mixed thoroughly, then placed alternately into jars for both X205 and X206. Soil used for volatile analysis was place directly into the sampling device without mixing.

Samples X207, X208, and X209 were collected from the Granite City Ditch in an area noted on topographic maps as an intermittent stream. Samples X207 and X208 were obtained approximately 9000 and 12000 feet, respectively, downstream from the origin of Granite City Ditch. Sample X209 was collected near the confluence of Granite City Ditch and Horseshoe Lake. This sample was collected to determine if contaminants have migrated to Horseshoe Lake via Granite City Ditch.

2.2.2 Surface Water Samples

Six surface water samples were collected from five locations during the CERCLA Integrated Assessment. The locations of the samples were selected in order to determine if hazardous contaminants were present in the surface water flowing within Granite City Ditch. The samples were collected from the upper 12 inches of water within the ditch and analyzed for TCL compounds. A complete list of TCL analytes can be found in Appendix B. Figure 3 illustrates the approximate locations of each sample. Table 2 provides more detailed information about each sample appearance. Table 5 provides surface water analytical data which has been detected at levels at least three times background levels. Table 6 provides a complete summary of surface water sample results of all detected compounds.

All surface water samples for the Integrated Assessment were compared to background sample S101. This representative background sample was collected from Nameoki Ditch in a location immediately north of St. Clair Avenue within Granite City. Sample S101 was collected in the same location to sediment sample X201. Due to the possible suspension of sediments, the surface water sample was collected before the sediment sample. In subsequent locations where both a surface water and sediment sample were collected, the surface water sample was collected first.

Sample S102 was collected from the ditch south of the junction of August Avenue and 23rd Street. This sample was taken from the same location as sediment sample X202 which represents the furthest upstream location of the Granite City Ditch. Within the area of the sample, there were several culvert pipes which appear to deposit storm water drainage from locations throughout Granite City into the ditch. This sample was collected in order to gather data from what appears to be the origin of the Granite City Ditch.

Sample S103 was collected from the Granite City Ditch south of Route 162. These sample locations were collected from the ditch which flowed parallel with two closed landfills located on the Granite City Steel property. This sample was gathered to determine the potential linear extent of surface water contamination along this route.

Samples S104/S105 were collected just north of a gravel road accessing the Granite City Steel wastewater treatment facility. The location of the sample was chosen to determine the linear distance of potential contamination within the ditch. The samples were collected from the same location as sediment Sample X207. Sample S105 was a duplicate sample of S104. Surface water from the respective location was placed alternately into jars for both S104 and S105.

Sample S106 was collected near the confluence of Granite City Ditch and Horseshoe Lake. Sample S106 was collected in the same location as sediment sample X209. This sample was obtained to determine if contaminants are present within the surface water entering Horseshoe Lake.

2.3 Analytical Results

Following sample collection, all samples were transferred to containers provided by Illinois EPA's Contract Laboratory Program. The sample containers were packaged and sealed in accordance with Illinois EPA's Site Assessment Program procedures. Sediment and surface water samples requiring semi-volatile and pesticide analysis were sent to American Technical and Analytical located in Maryland Heights, Missouri. Surface water samples requiring analysis for volatile compounds were also conducted by American Technical and Analytical. Sediment and surface water samples requiring inorganic analysis were delivered to Southwest Labs of Oklahoma, Incorporated in Broken Arrow, Oklahoma. Organic sediment sample analysis, using Method 5035, was performed by Illinois EPA's Division of Laboratories located in Springfield, Illinois. A complete analytical data package, including quality assurance review sheets, for the Granite City Ditch site is located in Appendix D (volume 2 of the Integrated Assessment report).

The analytical results of the sediment samples indicate the presence of volatile, semi-volatile, pesticide, and inorganic compounds in the upgradient portion of the Granite City Ditch. Samples X202, X203, X204, and X205/X206 represent the portions of the ditch which contain the highest levels of contamination. These four sample locations detected varying levels of PAH's with sample X204 containing the highest levels of these compounds. Elevated levels of

cadmium, copper, lead, vanadium, and zinc were also detected within the sediments of these four samples. Samples which represent significant levels of contamination are illustrated in Table 3.

Surface water sample analysis, illustrated in Table 5, indicated various levels of inorganic contamination within samples collected during the Integrated Assessment. When compared to background concentrations, significant levels of copper, lead, and vanadium were detected within all samples. Zinc and chromium were detected in all surface water samples except S104. Surface water samples indicating significant levels of contamination can be found in Table 5.

3.0 SITE SOURCES

Information obtained during the Integrated Assessment identified contaminated sediment within the ditch as a source of contamination at the Granite City Ditch site. Due to the limited scope of this investigation, the possibility exists that additional information may reveal the presence that additional sources of contaminants.

3.1 Contaminated Soil

The Granite City Ditch storm water collection system has been in use since at least the 1960's. During that time, the ditch has received storm water and other material throughout a large portion of Granite City. Since the 1960's the ditch has carried excess storm water through a series of channels before emptying into Horseshoe Lake. During that time sediments have had the opportunity to accumulated, especially in the upper portions of the drainage system. The upper portion of the Granite City Ditch was found to contain 1-3 feet of sediments on top of the concrete lined path. United States Geological Survey topographical maps indicate the ditch is

primarily considered intermittent. An intermittent water body is considered to not contain water during all seasons of the year under normal conditions. The lower portion of the ditch has been evaluated as perennial, however, no significant levels of contamination were detected within that segment.

Sediment samples X202, X203, X204, and X205/X206 were collected from the upper twelve inches of sediments. Analytical results revealed that contamination was present at each of these locations in concentrations at least three times background levels. Background level was established by sample X201 which was collected from a similar drainage ditch within Granite City. Although these samples have been identified as sediments, they were collected in an area identified as an intermittent water body. The HRS criteria used to evaluate the site indicates that samples collected from an intermittent water body will be considered soil samples.

Using sample points X202, X204, X204, and X205/X206 the linear distance was calculated to be approximately 6,800 feet. The width of the ditch was estimated to be approximately 8 feet, which resulted in 54,400 square feet of contaminated soil along this route. This route indicates the potential for contaminated soil to migrate to lower segments of Granite City Ditch and possibly impacting Horseshoe Lake.

4.0 MIGRATION PATHWAYS

The Site Assessment Program identifies three migration pathways and one exposure pathway, as identified in CERCLA's Hazard Ranking System, by which hazardous substances may pose threat to human health and/or the environment. Consequently, sites are evaluated on their known or potential impact to these pathways. The pathways evaluated are groundwater

migrate, surface water migration, soil exposure, and air migration.

4.1 Groundwater

According to Illinois EPA Bureau of Land file information, the Granite City area is situated on the eastern edge of American Bottoms. American Bottoms is a prehistoric channel of the Mississippi River now filled by river and glacial deposits. The general geology of the area consists of mostly sand and gravel with scattered clay lenses. This sand and gravel unit extends to depths of approximately 100 feet. This unit is underlain by a bedrock formation which consists of Mississippian-age limestone and sandstone. Industrial and residential wells may draw groundwater from this unit.

The American Bottoms area is typically characterized of 10 to 30 feet of soils which consist of fine sand, sandy clay, and sandy loam. Groundwater saturation is common within this zone and typically begins around 28 to 30 feet deep, although it may be encountered at shallower depths. Illinois EPA file information indicates regional groundwater flow, from the shallow aquifer, is generally toward Horseshoe Lake in a south and southwesterly direction.

The majority of the people living within 4-miles of the site obtain drinking water from the Illinois American Water Company. According to the Illinois American Water Company, drinking water for the Granite City area is obtained from two surface water intakes along the Mississippi River. The Mississippi River is approximately 3 miles to the west of the Granite City Ditch site.

There were no formal groundwater samples collected during the CERCLA Integrated Assessment. The potential exists that contaminants from the soil along the unlined portions of

the Granite City Ditch may impact the shallow groundwater of the area.

4.2 Surface Water

The Granite City Ditch provides the route for surface water to enter Horseshoe Lake. Water is contained within Horseshoe Lake except during periods when lake levels are elevated. During that time, excess water is allowed to flow into the Cahokia Canal which is located to the south of Horseshoe Lake. A more detailed description of the Granite City Ditch storm water collection system is provided in Section 1.1. A map depicting the surface water route can be found within Appendix A.

According to Federal Emergency Management Flood Insurance Maps a portion of the southern segment of the Granite City Ditch is located within the 100 year flood plain. Information from U.S. Department of the Interior wetland maps indicate that the extreme southern portion of the Granite City Ditch is considered to be a perennial water body. The remainder of the ditch is classified as an intermittent water body. Horseshoe Lake is listed as a fishery by the Illinois Department of Natural Resources.

The collection of samples indicated that the upper segment of the Granite City Ditch contained an area of contaminated soil estimated to be 54,000 square feet. This area was defined by samples X202, X203, X204, and X205/X206. Beyond the area of contaminated soil, an additional 1 mile segment of the Granite City Ditch exists before emptying into Horseshoe Lake. Samples X207, X208, and X209 were collected down gradient from the area of contaminated soil and did not indicate elevated levels of contamination. Contamination was not detected within sediments of the ditch down gradient from the area of contaminated soil. The surface water

pathway map, located in Appendix A, indicates area of known and potential contamination using sediment sample data.

Six surface water samples, from five locations, were collected along the Granite City Ditch site. Samples S101 through S106 indicated that similar inorganic constituents are present along the entire 2.6 mile Granite City Ditch. Sample S106, collected near the confluence of the ditch and Horseshoe Lake, indicated that eight separate inorganic constituents were present at that location. The presence of contamination at that sample location indicates that the waters of Horseshoe Lake are currently being impacted by the water flowing from the Granite City Ditch.

4.3 Soil Exposure

Previous sections within this report identifies the Granite City Ditch site as a source of contaminated soil encompassing approximately 54,000 square feet. During the Integrated Assessment samples were described as sediments since they were collected beneath the water surface. Topographic maps of the area indicate they were located within an intermittent water body. For purposes of this report, CERCLA guidelines consider samples taken from an intermittent water body to be interpreted as soil samples. The area surrounding the site is classified as urban with light and heavy industrial activities. There is a chain linked fence around the portions of the ditch which are parallel to 23rd Street and Nameoki Avenue. The segment of the ditch down gradient from Nameoki Avenue is located on private property and human intrusion is restricted.

The samples that were collected during the Integrated Assessment were composed of sand and silt. This material appears to have been transported to the ditch via the Granite City

storm water drainage network. The origin of the material can not be exactly determined since the stormwater drainage network encompasses a large portion of Granite City.

Using information gathered from previous CERCLA investigations and U.S. Geological Survey topographical maps, an estimated 15,120 people live within one-mile of the area of contaminated soil. According to the Illinois Department of Natural Resources there are no sensitive environments, other than wetlands, on-site or within ½ mile. Approximately 35 residential properties are located within 350 feet of the ditch. Lake Elementary School is located approximately 1000 feet northeast of the site.

Four samples were collected from the Granite City Ditch. The samples were collected from the upper twelve inches of soil and revealed levels of volatile, semi-volatile, pesticide, and inorganic contamination at levels exceeding three times background concentrations. Using HRS criteria, these elevated soil samples indicated an estimated 54,000 square feet of contaminated soil exist at the site. Even though the samples contained elevated levels of contamination, no sample contained concentrations above U.S. EPA Removal Action Levels.

Nearby population within one-mile of the site

Distance (mi)	Population
On-site	4
0 - 1/4	526
1/4 - ½	2918
½ - 1	11672

The number of people was calculated using 2.63 people per household in Madison County, as established by the U.S. Census Bureau

4.4 Air Route

No formal air samples were collected during Integrated Assessment activities. An estimated 97,266 people reside within a four-mile radius of the site. There is a low potential for the migration of air-borne particulates due to the presence of the contaminated soil in a moist environment.

Individuals potentially exposed to air-borne contaminants

Distance (mi)	Population
0 - 1/4	526
1/4 - ½	2918
½ - 1	11672
1 - 2	19453
2 - 3	27234
3 - 4	35459

The number of people were calculated using 2.63 people per household in Madison County, as established by the U.S. Census Bureau

5.0 ADDITIONAL RISK-BASED OBJECTIVES

This section discusses additional risk-based objectives used to evaluate the Granite City Ditch site. These objectives have not been used to assess the site for Hazard Ranking System (HRS) purposes.

5.1 Sediment Quality Guidelines

The sediment samples collected during the Integrated Assessment were compared to ecological benchmarks to help determine whether site activities have impacted the surface water pathway. Two sources of benchmarks were used for this comparison: Ontario sediment quality guidelines and U.S. EPA ecotox thresholds. Ontario sediment quality guidelines are non-regulatory ecological benchmark values that serve as indicators of potential aquatic impacts. Levels of contaminants below Ontario benchmarks indicate a level of pollution which has no effect on the majority of sediment-dwelling organisms. Contaminants for which no Ontario benchmarks were available were compared to U.S. EPA ecotox thresholds. Ecotox thresholds are ecological benchmarks above which there is sufficient concern regarding adverse ecological effects to warrant further site investigation. Ecotox thresholds are to be used for screening purposes and are not to be used as regulatory criteria, site-specific cleanup standards or remediation goals.

Samples collected during the Integrated Assessment indicate that levels of six separate PAH benchmarks have been exceeded. Specifically 1,2-dichlorobenzene, naphthalene, fluorene, phenanthrene, fluoranthene, and benzo(a)pyrene were the PAH's which were detected within samples X202, X203, X204, and X205/X206. Benchmark screening levels of DDE, DDD, cadmium, copper, iron, and zinc were also exceeded by samples collected from the Granite City Ditch. The following table compares benchmark screening data with samples collected during the Integrated Assessment.

Compound	Benchmark	X202	X203	X204	X205/X206
1,2-Dichlorobenzene	240 [2]	N.A.	N.A.	520 J	N.A.
Naphthalene	480 [2]	N.A.	N.A.	11000 J	2600 J
Fluorene	540 [2]	N.A.	N.A.	1600	600 J
Phenanthrene	850 [2]	5200	N.A.	8200	4200
Fluoranthene	2900 [2]	9800	N.A.	12000	5400
Benzo(a)pyrene	430 [2]	5800	N.A.	8700	N.A.
DDE	5 [1]	N.A.	38 J	26 J	N.A.
DDD	8 [1]	N.A.	39 J	69 J	71 J
Cadmium	0.6 [1]	2.5	4.8	5.1	2.7
Copper	16 [1]	68	108	129	68.9
Iron	20000 [1]	N.A.	N.A.	39000	N.A.
Zinc	120 [1]	622	926	1210	708

Benchmark Sources:

1. Ontario Sediment Screening Benchmarks
2. U.S. EPA Ecotox Thresholds

* Organic compounds displayed in ppb
* Inorganic compounds displayed in ppm

5.2 Surface Water Quality Guidelines

Surface water samples collected during the Integrated Assessment were compared to U.S. EPA ecotox benchmarks. While exceeding the benchmark does not indicate the level of type of risk involved, concentrations below the benchmark should not result in adverse ecological effects. If ecotox thresholds are exceeded there may be sufficient concern regarding adverse ecological effects that may warrant further site investigation. Ecotox thresholds are to be used for screening purposes and are not to be used as regulatory criteria, site-specific cleanup standards or remediation goals.

Ecotox benchmarks were exceeded for lead and cadmium in surface water samples S102,

S103, S104/S105, and S106. Sample S102 detected levels which exceeded the ecological benchmark for vanadium. The ecotox threshold level was exceeded by sample S103. The following table compares surface water screening data which samples collected during the Integrated Assessment.

Compound	Benchmark	S102	S103	S104/S105	X106
Vanadium	19	25.8	N.A.	N.A.	N.A.
Lead	2.5	12.6	14.3	6.4	9.8
Copper	11	N.A.	13.3	N.A.	N.A.
Cadmium	1.0	4.9	3.2	2.4	1.4

Benchmark Source:
U.S. EPA Ecotox Thresholds
* Inorganic compounds displayed in ppm

6.0 REFERENCES

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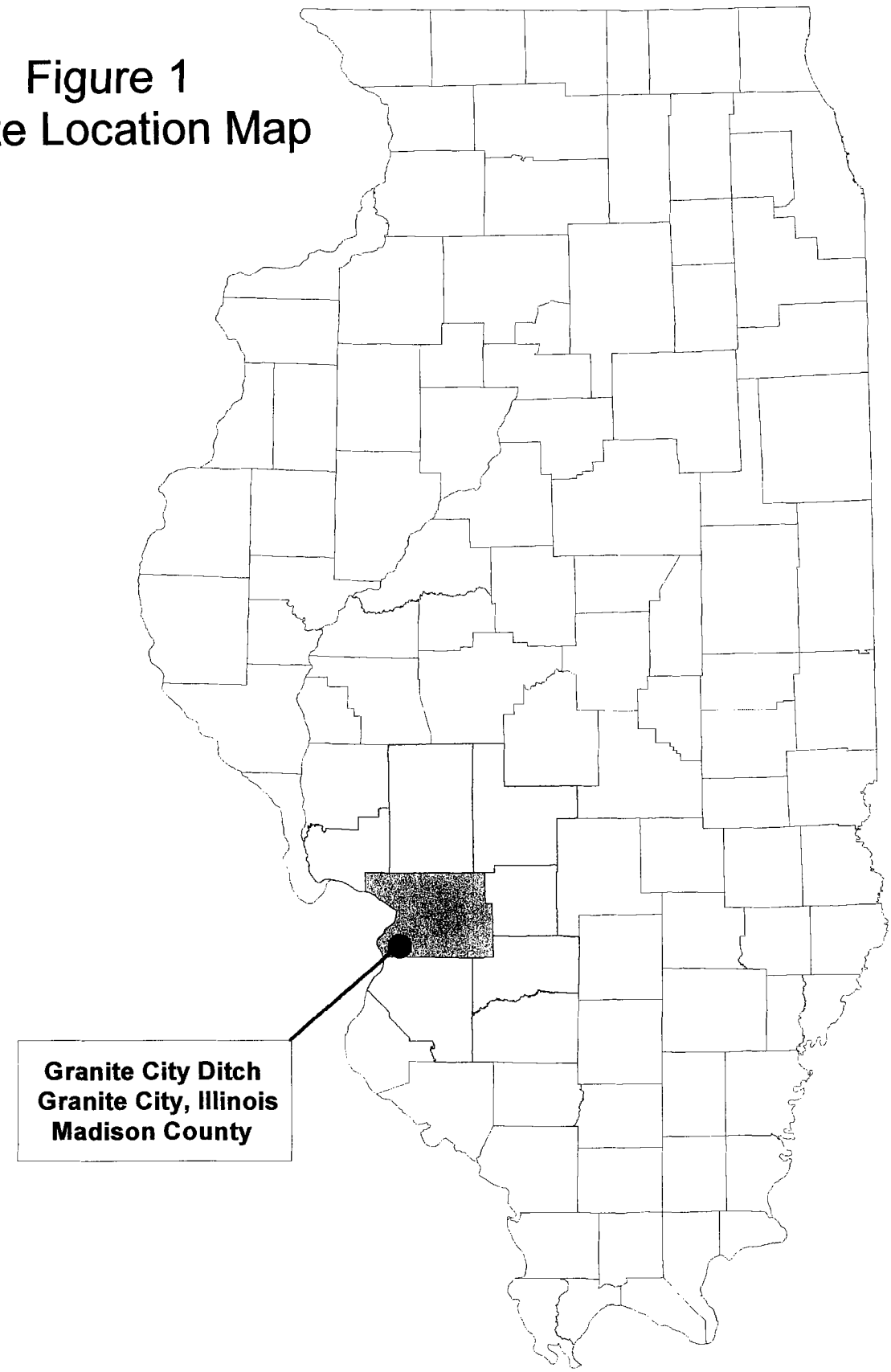
FIGURES AND TABLES

Figure 1
Site Location Map



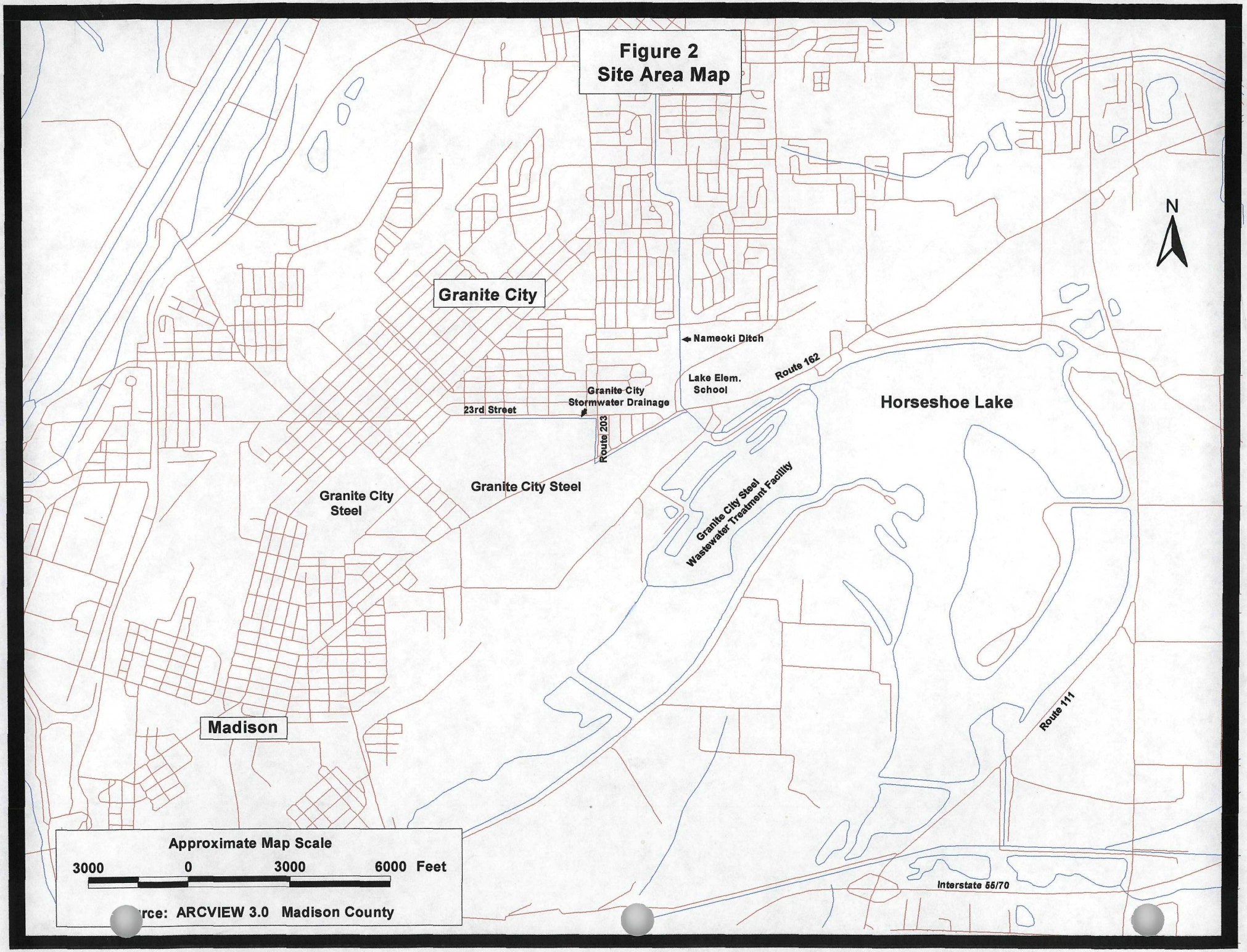


Figure 2
Site Area Map
N
Granite City
Nameoki Ditch
Lake Elem.
School
Route 162
Granite City
Stormwater Drainage
23rd Street
Route 203
Horseshoe Lake
Granite City Steel
Granite City
Steel
Granite City Steel
Wastewater Treatment Facility
Madison
Route 111
Interstate 55/70
Approximate Map Scale
3000 0 3000 6000 Feet
rce: ARCVIEW 3.0 Madison County

Figure 3
Sample Location Map

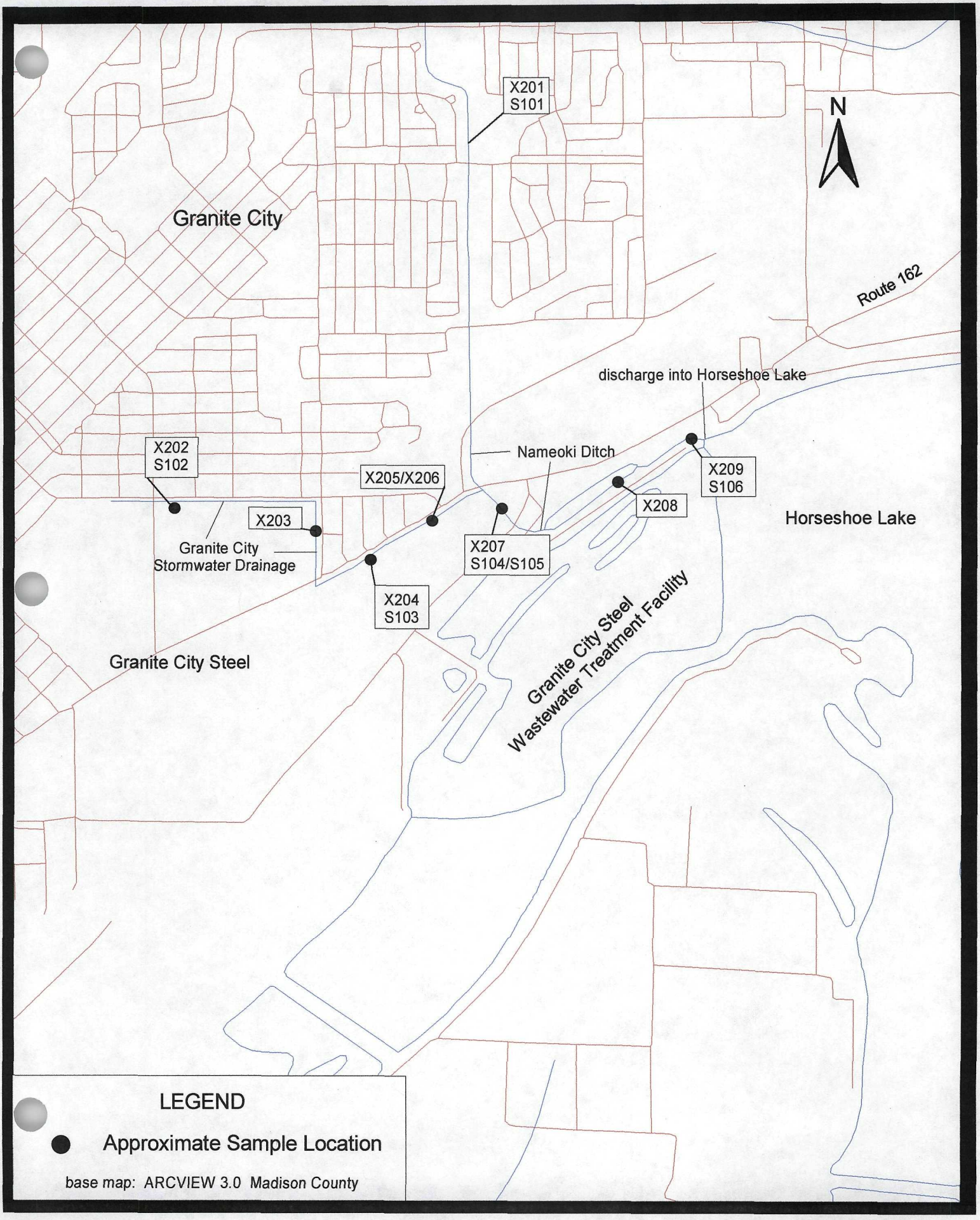


Table 1
Sediment Sample Descriptions

SAMPLE	DEPTH	APPEARANCE	LOCATION
X201	0 - 8 inches	sandy silt with a small amount of organic material	within the sediments of Nameoki Ditch, north of St. Clair Avenue, beneath 6 inches of water * Sample X201 is a representative background
X202	0 - 4 inches	organic, black silt with a small amount of sand	within the sediments of the Granite City stormwater ditch, 1 foot south of the north border of the drainageway, beneath 1 foot of water
X203	0 - 8 inches	black silt with a slight amount of sand	within the sediments of the Granite City stormwater ditch, 2 feet east of the western shore, parallel to Nameoki Avenue, beneath 10 inches of water
X204	1 - 2 feet	dark black, fine silt	within the sediments of the Granite City Ditch, south of Route 162 and north of the East End Landfill located on the Granite City Steel property, beneath 10 inches of water
X205/X206	1 - 10 inches	cindery silt with organic material	within the sediments of the Granite City Ditch, approximately 100 feet west of the stoplight (at the junction of Route 162 and East 23rd Street, beneath 10 inches of water * Sample X206 is a duplicate sample of X205
X207	0 - 12 inches	gray silty clay with organic material	within the sediments of the Granite City Ditch, north of the access road leading into the Granite City Steel wastewater treatment facility, beneath 4 feet of water
X208	0 - 12 inches	silty sand	within the sediments of the Granite City Ditch, north of the levee road separating the ditch and the Granite City Steel wastewater treatment lagoons, beneath 4 feet of water
X209	0 - 8 inches	black silty sand with gravel	near the confluence of Granite City Ditch and Horseshoe Lake, beneath 2 feet of water

Table 4
Sediment Sample Analysis

IEPA SAMPLE ID	X201	X202	X203	X204	X205	X206	X207	X208	X209
FED LAB ORGANIC SAMPLE ID	ECDE2	ECDE3	ECDE4	ECDG6	ECDG7	ECDG8	ECDF1	ECDF2	ECDF3
FED LAB INORGANIC SAMPLE ID	MEBFD5	MEBFD6	MEBFD7	MEBFD8	MEBFD9	MEBFE0	MEBFE1	MEBFE2	MEBFE3
DESCRIPTION	background					dup. of X205			
VOLATILES (ppb)									
Methylene Chloride	16 U	---	---	---	---	5 BJ	---	---	---
Acetone	25	280	220	210	67	83	17	12	20
Carbon Disulfide	14 B	23 BJ	22 J	23 J	6 J	8 J	10 J	3 J	4 J
Chloroform	---	4 J	---	---	---	---	---	---	---
2-Butanone	4 J	47	---	---	11 J	---	4 J	---	---
Benzene	2 J	---	12 J	6 J	---	---	---	---	---
4-Methyl-2-Pentanone	---	8 J	12 J	---	---	---	---	---	---
Toluene	8 J	26 J	26 J	8 J	3 J	5 J	15 J	4 J	7 J
Ethylbenzene	1 J	4 J	6 J	---	---		2 J	---	---
Xylene (total)	4 J	14 J	14 J	5 J	2 J	6 J	6 J	2 J	3 J
SEMI-VOLATILES (ppb)									
1,4-Dichlorbenzene	490 U	---	150 J	100 J	---	---	---	---	---
1,2-Dichlorobenzene	490 U	---	330 J	520 J	---	---	---	---	---
4-Methylphenol	490 U	39 J	70 J	220 J	170 J	190 J	---	---	---
Napthalene	490 U	210 J	250 J	11000 J	2600 J	2300 J	36 J	---	---
2-Methylnaphthalene	490 U	240 J	710 J	1800 J	840 J	740 J	---	---	---
Acenaphthylene	490 U	57 J	63 J	1100	590 J	560 J	---	---	---
Acenaphthene	71 J	380 J	230 J	620 J	160 J	150 J	---	---	---
Dibenzofuran	42 J	280 J	210 J	1900	820	740 J	---	---	---
Fluorene	91 J	360 J	420 J	1600	600 J	560 J	---	---	---
Phenanthrene	1300	5200	3800	6200	4200	3900	72 J	50 J	33 J
Anthracene	290 J	1500	660 J	3800	1800	1700	---	---	---
Carbazole	190 J	850	400 J	1000	520 J	500 J	---	---	---
Di-n-Butylphthalate	490 U	130 J	---	91 J	---	---	---	49 J	---
Fluoranthene	3100	9800	8400	12000	5400	5000	140 J	110 J	140 J
Pyrene	2600	9400	9400	14000	5900	5600	110 J	100 J	130 J
Butylbenzylphthalate	490	430 J	410 J	420 J	250 J	290 J	---	---	---
Benzo(a)Anthracene	1100	4900	3500	6900	3700	3600	41 J	42 J	46 J
Chrysene	1700	6700	6000	8600	4200	4100	69 J	79 J	70 J
bis(2-Ethylhexyl)Phthalate	800 U	2500	7000	4600	---	---	---	---	---
Benzo(b)Fluoranthene	2000	5400	4900	8500	4000	3300	55 J	73 J	82 J
Benzo(k)Fluoranthene	1600	6700	5200	7600	4100	4100	63 J	81 J	81 J
Benzo(a)Pyrene	1600	5800	4500	8700	4600	4100	---	---	57 J
Ideno(1,2,3-cd)Pyrene	1100	4400	3700	7000	3700	3400	36 J	53 J	46 J
Dibenz(a,h)Anthracene	440 J	1900	1500	2800	1600	1400	---	---	---
Benzo(g,h,i)Perylene	1000	4300	3800	6600	3300	3100	35 J	48 J	46 J
PESTICIDES (ppb)									
alpha-BHC	13 UJ	---	---	---	4.7 J	---	---	---	---
Heptachlor	13 UJ	2.9 J	---	---	---	---	---	---	---
Aldrin	13 UJ	---	1.4 J	---	---	---	---	---	---
Heptachlor epoxide	13 UJ	---	5.4 J	---	---	6.3 J	---	---	0.33 J
Endosulfan I	13 UJ	---	---	3.6 J	---	---	---	---	---
Dieldrin	25 UJ	21 J	---	---	12 J	16 J	0.71 J	---	0.75 J
4,4-DDE	6.4 J	19 J	38 J	26 J	11 J	16 J	---	---	1.2 J
4,4-DDD	11J	30 J	39 J	69 J	43 J	71 J	0.79 J	1.2 J	1.1 J
Endosulfan sulfate	25 UJ	---	---	16 J	---	14 J	---	---	---
4,4-DDT	8.8 J	16 J	16 J	---	14 J	---	---	0.43 J	1.6 J
Methoxychlor	130 UJ	46 J	---	---	---	---	---	1.6 J	---
Endrin aldehyde	25 UJ	---	---	---	11 J	---	---	---	---
alpha-Chlordane	11 J	52 J	84 J	66 J	72 J	110 J	0.75 J	1.9 J	---
gamma-Chlordane	13 J	58 J	110 J	85 J	88 J	120 J	0.85 J	2.6	0.39 J
INORGANICS (ppm)									
Aluminum	5270	11600	13200	14300	8300	8020	13900	5530	4220
Antimony	1.6 U	---	3.2	3.3	---	---	---	---	---
Arsenic	6.6 J	8.0 J	13.4 J	13.6 J	10.9 J	12.2 J	8.0 J	4.8 J	8.8 J
Barium	254	220	264	271	158	160	248	144	117
Beryllium	0.47	1.9	1.3	1.7	1	0.85	0.96	0.37	0.29
Cadmium	0.77	2.5	4.8	5.1	2.6	2.7	---	---	0.57
Calcium	25900	85800	84000	43300	8400	10600	21300	16200	9980
Chromium	22.2	182 J	129 J	193 J	133 J	83.3 J	19.6 J	12.3 J	49.3 J
Cobalt	4.4	4.7	8.1	8.9	7.5	7.6	8.2	6.4	5
Copper	18.8	68	108	129	68.9	65.7	27.3	9.7	10.4
Iron	12500	30200	36500	39000	24400	24600	18900	11800	12100
Lead	93.4	297	830	517	414	430	16.7	19.9	47.5
Magnesium	4740	13500	10100	9620	3660	3940	8790	4850	3690
Manganese	237 J	2420	1350 J	1460 J	522 J	536 J	649 J	328 J	533 J
Mercury	0.07 U	---	0.15	0.13	0.14	---	---	---	---
Nickel	13.9	21.1	36.1	37.9	26.6	28.5	23.9	15.9	14.5
Potassium	885	1620	2360	2130	1440	1400	2900	880	711
Selenium	1.3 J	1.8 J	1.9 J	3.6	2.7 J	1.7 J	1.2 J	---	---
Sodium	512 J	1330 J	1070 J	1220 J	767 J	811 J	776 J	429 J	491 J
Thallium	1.5 J	---	1.5 J	1.8 J	1.9 J	1.3 J	1.2 J	1.1 J	1.0 J
Vanadium	21	105	111	112	80.8	78.8	28.5	19.5 J	31.4
Cyanide	0.06 R	0.17 J	---	0.28 J	0.66 J	0.51 J	0.14 J	0.07 J	---
Zinc	159	622	926	1210	655	708	85.5	53.8	357

DATA QUALIFIERS

--- Indicates the analyte was undetected

U Indicates the analyte was undetected

B Indicates the analtye was detected in the associated blank

J Indicates an estimated value

R Indicates the data are unusable

Table 5
Key Surface Water Sample Analysis

IEPA SAMPLE ID	S101	S102	S103	S104	S105	S106
FED LAB ORGANIC SAMPLE ID	ECDD9	ECDE0	ECDE1	ECCY8	ECCY9	ECCZ0
FED LAB INORGANIC SAMPLE ID	MEBFC9	MEBFD0	MEBFD1	MEBFD2	MEBFD3	MEBFD4
DESCRIPTION	s.w. bkgnd.					
INORGANICS (ppb)						
Aluminum	14.4	520	432	181	2060	709
Cadmium	1.0 U	----	2.1	----	----	----
Chromium	1.0 U	4.9	3.2	----	2.4	1.4
Copper	3.0 U	8.3	13.3	4.7	6.5	6.4
Iron	530	----	2360	2570	3910	1690
Lead	2.0 U	12.6	14.3	3.9	6.4	9.8
Mercury	0.10 U	0.14	----	----	----	----
Nickel	1.5	----	----	----	10.6	----
Potassium	4100	18300	----	----	----	----
Selenium	3.0 U	3.9	----	----	----	----
Sodium	21600	----	----	----	1140000	----
Thallium	3.0 U	3	----	----	----	3.8
Vanadium	1.0 U	25.8	8.6	1.6	2.3	5.3
Zinc	4.3 J	36.2	44.6	----	43.9	45.6

DATA QUALIFIERS

---- Indicates the analyte was undetected

U *Indicates the analyte was undetected*

J Indicates an estimated value

Table 6
Surface Water Sample Analysis

IEPA SAMPLE ID	S101	S102	S103	S104	S105	S106
FED LAB ORGANIC SAMPLE ID	ECDD9	ECDE0	ECDE1	ECCY8	ECCY9	ECCZ0
FED LAB INORGANIC SAMPLE ID	MEBFC9	MEBFD0	MEBFD1	MEBFD2	MEBFD3	MEBFD4
DESCRIPTION	background				dup. of S104	
VOLATILES (ppb)						
Methylene Chloride	6 J	6 J	7 J	4 J	3 J	6 J
PESTICIDES (ppb)						
Endosulfan I	0.0050 U	----	0.006 J	----	----	----
INORGANICS (ppb)						
Aluminum	14.4	520	432	181	2060	709
Arsenic	6.1	2.4	3.1	4.8	6.3	3.5
Barium	308	47.5	60.2	293	296	213
Cadmium	1.0 U	----	2.1	----	----	----
Calcium	110000	77000	74800	110000	101000	88600
Chromium	1.0 U	4.9	3.2	----	2.4	1.4
Copper	3.0 U	8.3	13.3	4.7	6.5	6.4
Iron	530	884	2360	2570	3910	1690
Lead	2.0 U	12.6	14.3	3.9	6.4	9.8
Magnesium	25400	5660	15800	27900	31000	22500
Manganese	954	175	1420	601	699	758
Mercury	0.10 U	0.14	----	----	----	----
Nickel	1.5	2.6	4	2.3	10.6	3
Potassium	4100	18300	6190	5520	9240	5850
Selenium	3.0 U	3.9	----	----	----	----
Sodium	21600	43300	29600	17900	1140000	20700
Thallium	3.0 U	3	----	----	----	3.8
Vanadium	1.0 U	25.8	8.6	1.6	2.3	5.3
Cyanide	2.0 J	2.1 J	5.4 J	3.8 J	2.9 J	2.2 J
Zinc	4.3 J	36.2	44.6	17.5 J	43.9	45.6

DATA QUALIFIERS

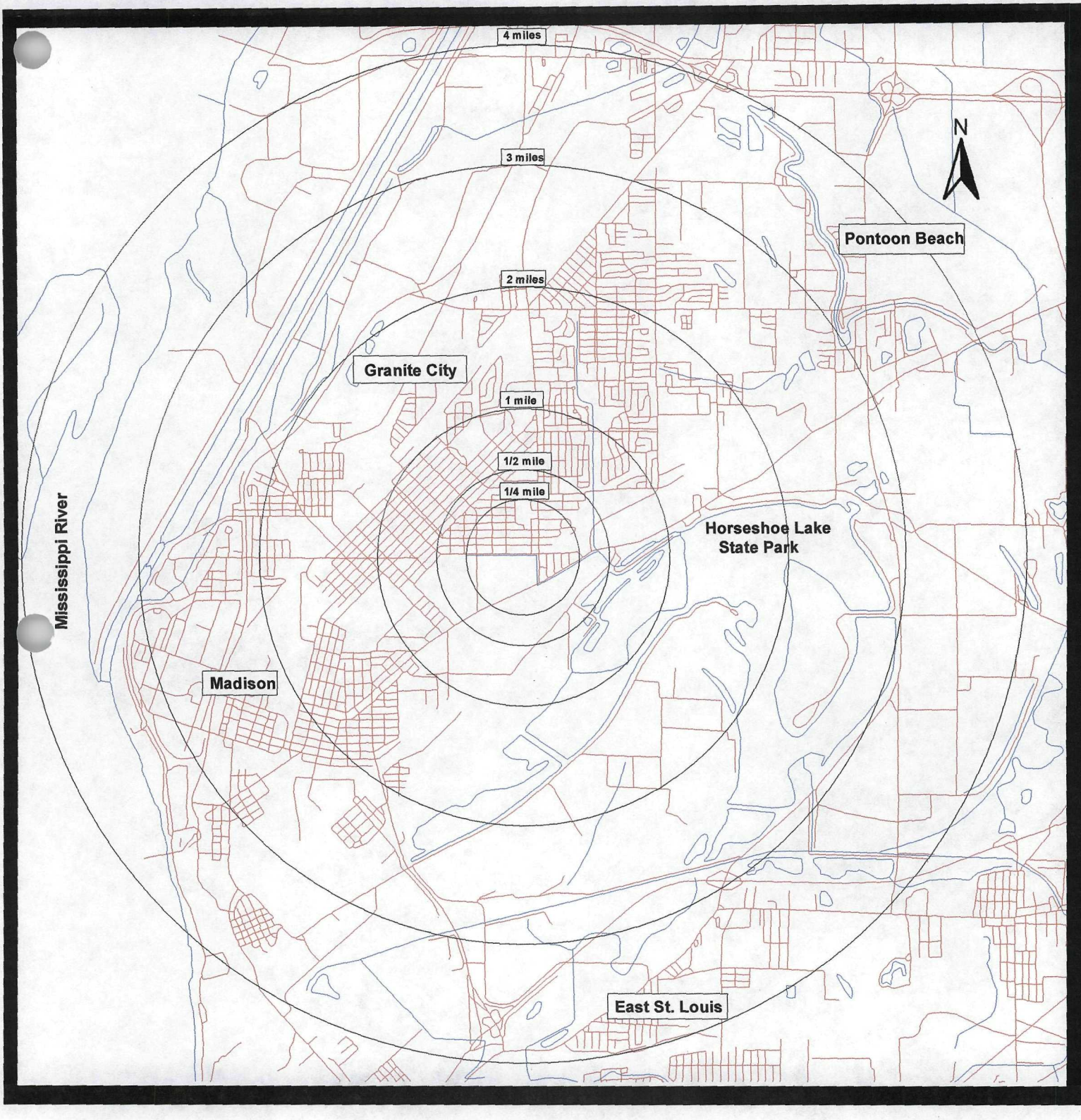
---- Indicates the analyte was undetected

U Indicates the analyte was undetected

J Indicates an estimated value

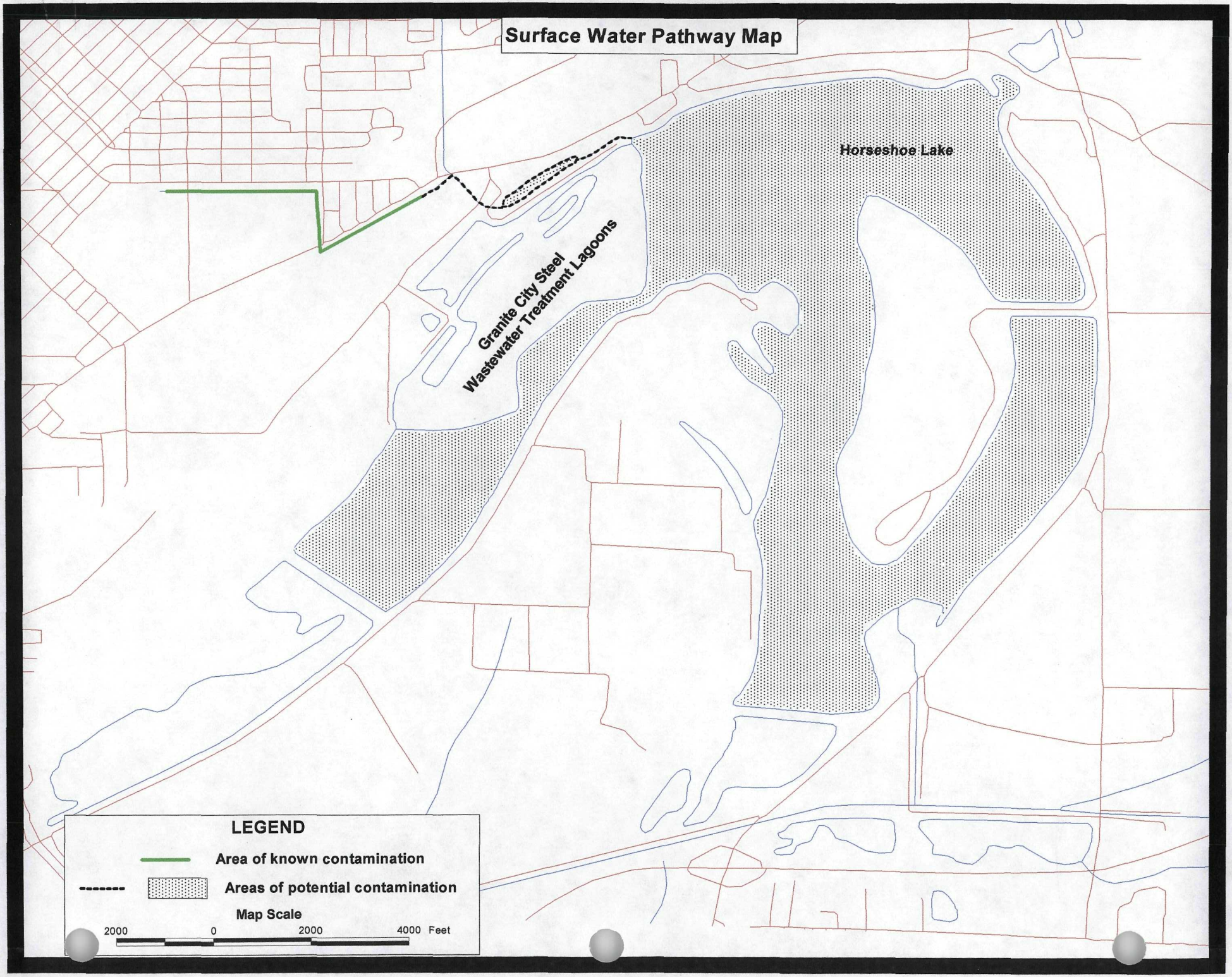
APPENDIX A
4-MILE RADIUS MAP
and
SURFACE WATER MAP

4-Mile Radius Map



Map Scale

2 0 2 4 Miles


Surface Water Pathway Map
Horseshoe Lake
Granite City Steel
Wastewater Treatment Lagoons
LEGEND
Area of known contamination
Areas of potential contamination
Map Scale
2000
0
2000
4000 Feet

APPENDIX B
TARGET COMPOUND LIST

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane
Bromomethane	cis-1,3-Dichloropropene
Vinyl Chlorde	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropene
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroehtene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
2-Butanone	Toluene
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene
bis(2-Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso-Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether
Hexachlorobutadiene	Anthracene
2-Methylnaphthalene	Di-n-Butylphthalate
1,2,4-Trichlorobenzene	Fluoranthene

Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4-Chloroaniline	bis(2-Ethylhexyl)Phthalate
bis(2-chloroethoxy)Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a)Anthracene
2-Chloronaphthalene	3-3'-Dichlorobenzidene
2-Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b)Fluoranthene
3-Nitroaniline	Benzo(k)Fluoranthene
Acenaphthene	Benzo(a)Pyrene
Dibenzofuran	Ideno(1,2,3-cd)Pyrene
Dimethyl Phthalate	Dibenz(a,h)Anthracene
2,6-Dinitrotoluene	Benzo(g,h,i)Perylene
Fluorene	1,2-Dichlorobenzene
4-Nitroaniline	1,3-Dichlorobenzene
4-Chlorophenyl-phenylether	1,4-Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2,4,6-Trichlorophenol
Phenol	2,4,5-Trichlorophenol
2-Chlorophenol	4-Chloro-3-methylphenol
2-Nitrophenol	2,4-Dinitrophenol
2-Methylphenol	2-Methyl-4,6-dinitrophenol
2,4-Dimethylphenol	Pentachlorophenol
4-Methylphenol	4-Nitrophenol
2,4-Dichlorophenol	

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

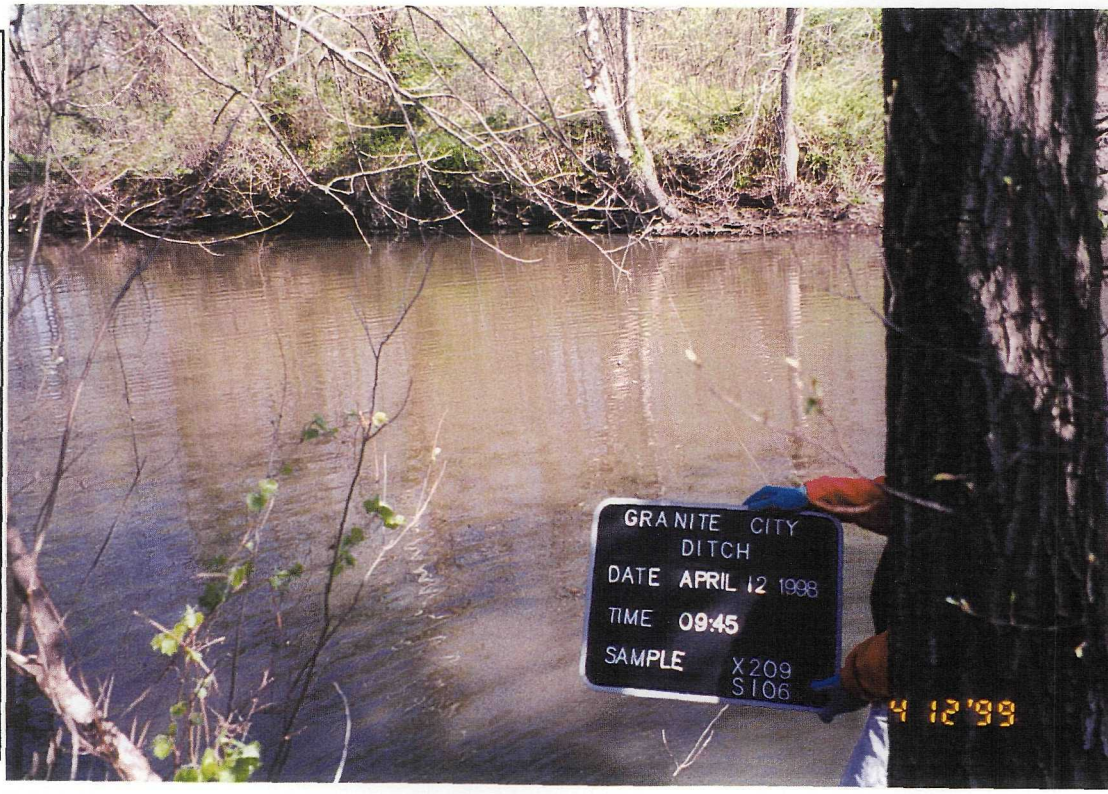
Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobolt	Vanadium
Copper	Zinc
Iron	Cyanide
Lead	Sulfide
Magnesium	

APPENDIX C
ILLINOIS EPA
SAMPLE PHOTOGRAPHS

SITE NAME: Granite City Ditch	
CERCLIS ID: ILSFN 0507809	COUNTY: Madison

DATE: April 12, 1999
TIME: 10:00 a.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 1
ROLL NUMBER: 1
DIRECTION: N-northeast
COMMENTS: Photo taken of samples X209 and S106 located near the confluence of the Granite City Ditch and Horseshoe Lake

DATE: April 12, 1999
TIME: 10:00 a.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 2
ROLL NUMBER: 1
DIRECTION: N-northwest
COMMENTS: Photo taken of samples X209 and S106 located near the confluence of the Granite City Ditch and Horseshoe Lake



SITE NAME:	Granite City Ditch
CERCLIS ID:	ILSFN 0507809 **COUNTY:** Madison

DATE:	April 12, 1999
TIME:	10:45 a.m.
PHOTO BY:	B. Everetts
PHOTO NUMBER:	3
ROLL NUMBER:	1
DIRECTION:	Northwest
COMMENTS:	Photo taken of sample X208 located Granite City Ditch northeast of the Granite City Steel wastewater treatment lagoons

DATE:	
TIME:	
PHOTO BY:	
PHOTO NUMBER:	
ROLL NUMBER:	
DIRECTION:	
COMMENTS:	NO PHOTO TAKEN

SITE NAME:	Granite City Ditch
CERCLIS ID:	ILSFN 0507809 **COUNTY:** Madison

DATE: April 12, 1999
TIME: 11:50 a.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 4
ROLL NUMBER: 1
DIRECTION: Northeast
COMMENTS: Photo taken of samples X207 and S104/S105 located north of a culvert beneath an access road entering the Granite City Steel wastewater treatment facility

DATE: April 12, 1999
TIME: 11:50 a.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 5
ROLL NUMBER: 1
DIRECTION: Northwest
COMMENTS: Photo taken of samples X207 and S104/S105 located north of a culvert beneath an access road entering the Granite City Steel wastewater treatment facility

SITE NAME: Granite City Ditch	
CERCLIS ID: ILSFN 0507809	**COUNTY:** Madison

DATE: April 12, 1999
TIME: 1:13 p.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 6
ROLL NUMBER: 1
DIRECTION: S-Southwest
COMMENTS: Photo taken of sample X205/X206 located within Granite City Ditch approximately 25 feet south of Route 162/203 (Sample X206 is a duplicate sample of X205)

DATE: April 12, 1999
TIME: 1:13 p.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 7
ROLL NUMBER: 1
DIRECTION: Northeast
COMMENTS: Photo taken of sample X205/X206 located within Granite City Ditch approximately 25 feet south of Route 162/203 (Sample X206 is a duplicate sample of X205)

SITE NAME:	Granite City Ditch
CERCLIS ID:	ILSFN 0507809 **COUNTY:** Madison

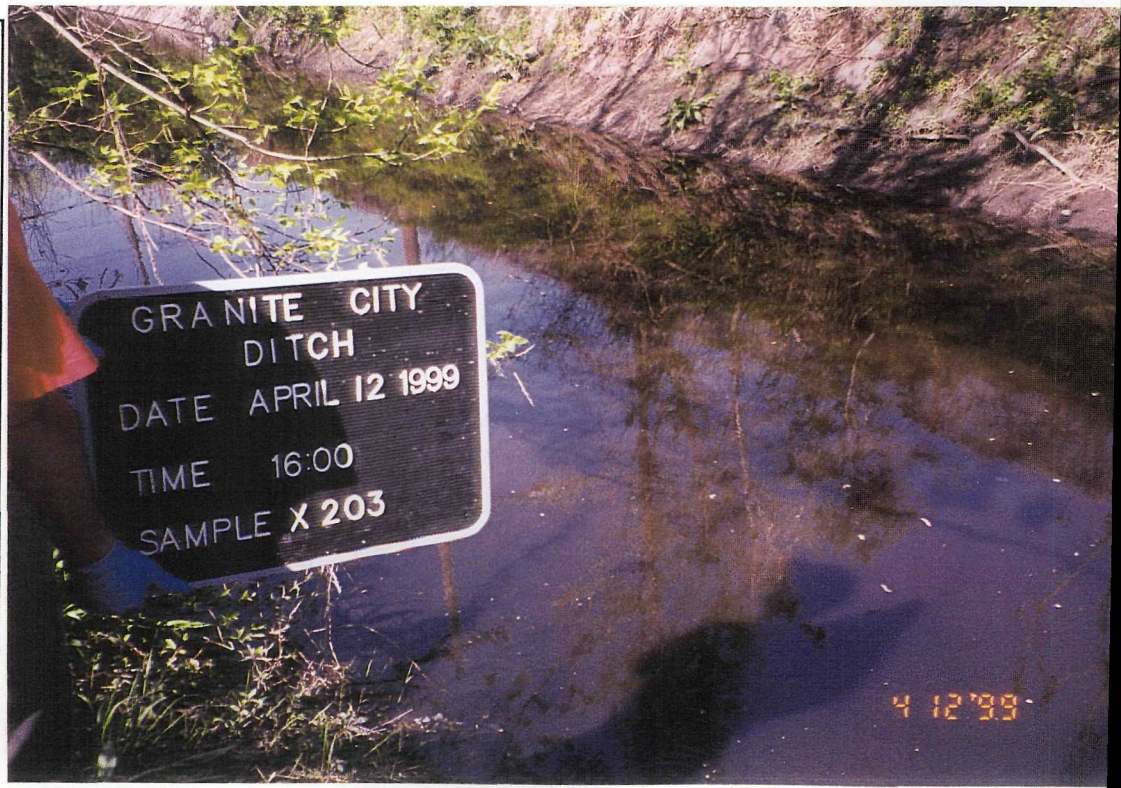
DATE: April 12, 1999
TIME: 2:30 p.m.
PHOTO BY: Mark Wagner
PHOTO NUMBER: 8
ROLL NUMBER: 1
DIRECTION: N-northeast
COMMENTS: Photo taken of samples X204 and X103 located south of Route 162/203

DATE: April 12, 1999
TIME: 2:30 p.m.
PHOTO BY: Mark Wagner
PHOTO NUMBER: 9
ROLL NUMBER: 1
DIRECTION: West
COMMENTS: Photo taken of samples X204 and X103 located south of Route 162/203

SITE NAME:	Granite City Ditch
CERCLIS ID:	ILSFN 0507809 **COUNTY:** Madison

DATE: April 12, 1999
TIME: 4:00 p.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 1
ROLL NUMBER: 2
DIRECTION: Southeast
COMMENTS: Photo taken of sample X203 located within Granite City Ditch parallel to Nameoki Road

DATE: April 12, 1999
TIME: 4:00 p.m.
PHOTO BY: B. Everetts
PHOTO NUMBER: 2
ROLL NUMBER: 2
DIRECTION: Northeast
COMMENTS: Photo taken of sample X203 located within Granite City Ditch parallel to Nameoki Road



SITE NAME:	Granite City Ditch
CERCLIS ID:	ILSFN 0507809 **COUNTY:** Madison

DATE: April 13, 1999
TIME: 9:00 a.m.
PHOTO BY: Mark Wagner
PHOTO NUMBER: 3
ROLL NUMBER: 2
DIRECTION: Southeast
COMMENTS: Photo taken of samples X202 and S102 located south of the intersection of 23rd Street and August Avenue

DATE: April 13, 1999
TIME: 9:00 a.m.
PHOTO BY: Mark Wagner
PHOTO NUMBER: 4
ROLL NUMBER: 2
DIRECTION: South
COMMENTS: Photo taken of samples X202 and S102 located south of the intersection of 23rd Street and August Avenue

SITE NAME: Granite City Ditch	
CERCLIS ID: ILSFN 0507809	COUNTY: Madison

DATE: April 13, 1999
TIME: 10:00 a.m.
PHOTO BY: Mark Wagner
PHOTO NUMBER: 5
ROLL NUMBER: 2
DIRECTION: Southwest
COMMENTS: Photo taken of samples X201 and S101 located from Nameoki Ditch (these samples were collected to serve as representative backgrounds)

DATE: April 13, 1999
TIME: 10:00 a.m.
PHOTO BY: Mark Wagner
PHOTO NUMBER: 6
ROLL NUMBER: 2
DIRECTION: West
COMMENTS: Photo taken of samples X201 and S101 located from Nameoki Ditch (these samples were collected to serve as representative backgrounds)